

## **REMARKS**

Claims 1-10 are pending in the application. Claims 1-10 stand rejected. Claim 3 is canceled. Previously withdrawn claims 11-21 are likewise canceled. Claim 1 has been amended to limit the protonated amine monomer units to 5 to 40 mole percent, and the hydrophobic monomer units to at least 60 mole percent. Support for these amendments are found at p. 4, next to last paragraph, and p. 5, last paragraph of the Description. Accordingly, no new matter is added with this amendment.

### **Reply to the Objection of Claim 3**

The Examiner has objected to claim 3 as being of improper dependent form for failing to further limit the subject matter of claim 1. Claim 3 has been canceled. Accordingly, this objection is now moot.

### **Reply to the Rejection of Claims 1-10 under 35 U.S.C. § 103(a)**

The Examiner has rejected Claims 1-10 as being unpatentable over U.S. Patent No. 4,708,870 to Pardini ("Pardini"). For the following reasons, Applicants respectfully traverse the Examiner's rejection of claims 1-10 as being rendered obvious by Pardini.

As previously noted, Pardini teaches a method for imparting non-fugitive antimicrobial activity to an article of manufacturing by forming the articles of manufacture from an acrylonitrile composition that includes up to 10% of a protonated amine (Abstract). The antimicrobial activity is inherent in the acrylonitrile composition (Abstract). In applicants' 29 March 2007 Reply, applicants showed that the maximum amount of protonate amine taught by Pardini is 3 mole %. Pardini specifically limits the amount of protonated amine to no more than 10%, or 3 mole %, in order to achieve the antimicrobial activity. Therefore, Pardini provides no motivation to one skilled in the art to seek compositions having from 5 to 40 mole percent of protonated amine monomer units, and the burden remains with the Examiner to prove otherwise.

The Examiner's remarks at the bottom of page 3 of the present Office Communication are noted but are irrelevant with respect to the present argument. The issue is not whether one skilled in the art would be able to convert between mole percent and weight percent; in fact,

applicants did such a conversion in their 29 March 2007 Reply. Rather, the issue here with respect to mole % is Pardini's limitation of protonated amines to no more than 3 mole %. As stated in the present Description, the environmental conditions at which the polymer will change from soluble to insoluble are dependent upon, among others, the levels of protonated amine monomers. The Description further states that if "the polymer has . . . too little protonated amine monomer, . . . the polymer will become insoluble even under lower pH conditions" (p. 6, last line – p. 7, end of 1<sup>st</sup> paragraph).

Likewise, the Examiner's statement at the top of page 4 is incorrect. The field of endeavor of Pardini is the provision of non-fugitive antimicrobial activity in the formation of synthetic fibers for use in clothing (col. 1, lines 7-13). In contrast, the field of endeavor of the present application is controlled release polymers; that is, polymers whose water solubility can be triggered by a change in pH, the salt or surfactant concentration, or both. Pardini makes absolutely no reference to controlled release, particularly with respect to film coatings useful for coating, for example, laundry detergent tablets. Accordingly, Pardini provides absolutely no motivation to one skilled in the art to look to polymers of protonated amine monomers and hydrophobic monomers for use as triggerable films.

Finally, with respect to the Examiner's statement at the top of page 5 regarding the provision of unexpected results, applicants respectfully direct the Examiner's attention to column 3, line 3 to column 4, line 18 of Pardini, which describes the process for preparing the polymer of Pardini and its subsequent conversion to yarn. The process for producing the polymer of Pardini is most analogous to that of Comparative Example 1 of the present application with the exception that Comparative Example 1 only polymerizes an amine monomer and protonates it with volatile acetic acid, whereas the process of Pardini copolymerizes an amine monomer with other monomers (acrylonitrile and methylacrylate – see Table II of Pardini) and utilizes either ethylenediamine tetra acetic acid (volatile acid) or water to quench the reaction, resulting in a polymer slurry. From Table 2 of the present application it is seen that the polymer of Comparative Example 1 is insoluble in both detergent wash water and deionized water, and films formed from the polymer of Comparative Example 1 contain no protonated amine.

Pardini provides no guidance as to how its amine monomers are to be protonated. Pardini only exemplifies use of a volatile acid for quenching its polymerization. Accordingly, one


skilled in the art, considering the teachings of Pardini, would be provided with no motivation to form triggerable films from copolymers of 5 to 40 mole % protonated amines and at least 60 mole % hydrophobic monomers wherein the amines are protonated with a fixed acid.

For at least these reasons, claims 1-10 are not rendered obvious by Pardini. Withdrawal, therefore, of the rejection of claims 1-10 under 35 U.S.C. § 103(a) is respectfully requested. Allowance of the claims is believed to be in order, and such allowance is respectfully requested.

Respectfully submitted,

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